

An overlooked early collection from the Rocky Mountains

WILLARD T. McLAUGHLIN

A chronological list¹ of plant collections made within the area now included in the state of Montana fails to take cognizance of a small but interesting series of specimens brought back to Northwestern University and eventually deposited in what is now known as the Babcock Herbarium of that institution. The collector was Mr. Oliver Marcy, for many years Deering Professor of Natural History and curator of the institution's natural history museum.

In April, 1866 Mr. Marcy left Old Mission, California, as a member of a government survey party sent to survey the Lolo, Lou Lou, or Northern Nez Perces Trail through the Bitter Root Mountains of Idaho and Montana. The plants collected on this expedition, numbering about 150 specimens, were identified by Asa Gray and George Vasey. They have been gone over and the nomenclature rechecked by the writer.

The following account is taken from a narrative of the trip written by Mr. Marcy and published in the Annual Report of the Department of Natural History, Northwestern University, for the year 1887.

"In 1863 gold was discovered at Alder Gulch, now Virginia City, Montana. Then the merchants of the west coast petitioned Congress to build a wagon road from Lewiston, Idaho, to Virginia City, Montana. An appropriation was voted for that purpose. In 1866 a party was sent to Lewiston with instructions to make a rapid reconnoissance, select a route, and proceed to construct a road. The Lou Lou trail was the shortest and the most feasible trail across the mountains, but the sum appropriated was not large enough to construct a road on this or any other route between the points. The money was expended on this trail.

"The latitude of the Lou Lou trail is about 46° 30'. It crosses the Bitter Root Mountains from the great plain of the Columbia on the west to the Bitter Root Valley, in Montana, on the east.

"Eastward from Craig's Mountain the plateau is a grassy plain, much cut up with cañons. At the crossing of the Clear-

¹ Blankinship, J. W. A Century of Botanical Exploration in Montana. Montana Agric. Coll. Sci. Studies 1: 1-31. 1904.

water (at Schultz's Ferry) the cañon is 2,000 feet deep and the sides are very steep. From the Ferry to Mussel Creek, at the west base of the mountains, there is a broken country, at first sparsely covered with 'yellow pines' [*Pinus ponderosa* Dougl.],² then more densely with firs; and at the creek and all over the west side of the mountains there is a very dense forest of magnificent firs [*Abies grandis* Lindl.], arbor vitae [*Thuja plicata* Don.] and white pines [*Pinus monticola* Dougl.].

"The party of 1866 camped at the west base of these mountains on Mussel Creek, from the 5th to the 26th of June, and it rained 17 out of the 21 days. In passing the mountains the party found the snows seven feet deep in the woods where it had not drifted; so did Lewis and Clarke, who crossed the mountains just 60 years before at the same time of the year. The snows had been much deeper during the winter. Now they were coarsely granulated and so compacted that they bore the horses very well except at the sides of the underlying logs. The heat reflected from the trees had thawed basins around their trunks and sometimes completely to the ground. No frozen ground was seen. Flowers seemed in haste to spring up. A trillium [*Trillium ovatum* Pursh.] was gathered in blossom, the stem of which had forced itself up through three and a half inches of granulated snow.

"The fir trees began to grow, forming new wood and leaves at the ends of the branches while the snow was seven feet deep between the trees. It is probable that the snow, beginning to fall in September or the first of October, protects the ground so completely that it never freezes.

"The University Herbarium contains one hundred and fifty species of plants collected on this expedition, and most of them were collected in the mountain region. These plants have been studied by Dr. Vasey, botanist to the U. S. Department of Agriculture, and also by Dr. Gray. Perhaps the most rare plant in the collection is the *Wulfenia reniformis* Hook. It was found at an altitude of six thousand feet, June 28, in bloom, near the snow.

"The *Caltha leptosepala* was found in circumstances very interesting to the botanist. Coming down from a peak to a sag

² Data within the brackets has been added by the writer.

in the ridge, a circular area was seen two rods in diameter, from which the snow was melted, apparently by spring water. The whole circle was thickly covered by the white blossoms which crowded closely to the snow wall, seven feet high, which inclosed the area.

"We have before mentioned the finding of a specimen of *Trillium ovatum*, forcing its blossom and leaves through three inches of granulated snow. The plant was abundant on the west side of the mountain.

"Some plants familiar in the East were found remarkably dwarfed by the cold. The *Claytonia caroliniana* [apparently *C. lanceolata* Pursh.; represented by a single fragmentary specimen] was found at an altitude of six thousand feet, not more than an inch high, yet in full bloom. It covered the ground thickly under a tree. A *Ranunculus* [immature] was found in the margin of Lake Templin, altitude five thousand feet. Dr. Gray expressed the opinion that it was *R. rhomboideus* dwarfed by the cold. The length of the specimen is about an inch. The yellow blossoms covered the water thickly. Dr. Vasey dissented from the opinion that it was *R. rhomboideus*.

"Only one plant of the *Xerophyllum tenax* was found in blossom. This was at an altitude of four thousand feet, on the west side of the mountain, June 26. The plants were common at the highest altitudes.³

"The *Lewisia rediviva*, the 'Bitter Root,' which gives name to the mountains, and also to the river and valley which the missionaries named St. Mary's, was found at the Hot Springs, July 6. This plant became known through the collection of Lewis and Clarke, who passed this locality at the time of its blossoming in 1806.

"In riding over the snow at midday, July 3, at an altitude of six thousand feet, the horses' feet sank into the melting snow to the fetlock. Suddenly it was noticed that all of the tracks of the horses, over quite a large area, appeared red as if stained with blood. Collecting some of the snow and applying the lens, the little grains of the *Protococcus nivalis* were clearly seen float-

³ Apparently 1866 was not a beargrass year. This very showy member of the Lily family with its dense, club-shaped raceme of white flowers seems to bloom profusely only at intervals, variously estimated at from three to seven years.—W.T.M.

ing in the current of water in the melting snow. This little unicellular plant had previously multiplied over the surface of the snow, but in the melting of the snow the grains had been carried below the surface to a depth at which the snow was still permanently hard. The surface did not show the plant at all. The specimens of this plant which were collected failed to reach our herbarium. The botany of this trail is far from being completely known. It is a region in which the botanist of the near future will find great pleasure."

The following chronological list of plants is incomplete due to lack of data or to the fragmentary nature of some of the collections, rendering their identification impossible.

May 15, 1866. Lewiston, Idaho.

Phacelia linearis (Pursh) Halz.

Erysimum asperum DC.

Troximon cuspidatum Pursh.

Sisymbrium Sophia L.

Cogswellia Canbyi (Coult. & Rose) M. E. Jones.

Collomia linearis Nutt.

Achillea lanulosa Nutt.

May 17, 1866. Near Lewiston, Idaho.

Fritillaria pudica (Pursh) Spreng.

May 21, 1866. Near Lapwai, Idaho.

Geranium viscosissimum Fisch. & Mey.

Phlox speciosa Pursh.

May 23, 1866. Lapwai, Idaho.

Claytonia perfoliata Donn.

Collinsia parviflora Dougl.

May 24, 1866. Near Lapwai, Idaho.

Ptilonella scabra (Hook.) Nutt.

Mimulus microphyllus Benth.

Camassia quamash Greene.

Orobanche Sedi (Suksd.) Fernald.

May 25, 1866. Near Lapwai, Idaho.

Viola linguaefolia Nutt.

May 26, 1866. Bitter Root Mountains, Idaho; lat. 46°30'.

Mitella trifida Graham.

May 27, 1866. High prairie, 40 miles east of Lewiston.

Mertensia oblongifolia (Nutt.) Don.

Viorna hirsutissima (Pursh) Heller.

Calochortus elegans Lindl.

May 28, 1866. West of Bitter Root Mountains, Idaho.

Lonicera ciliatum (Muhl.) Pursh.

June 1, 1866. Schultz Ferry on the Clearwater, Bitter Root Mountains, Idaho.

- Rubus parviflorus* Nutt.
Sisyrinchium grandiflorum Dougl.
Calypto bulbosa (L.) Oakes.
Pachystima myrsinites (Pursh) Raf.
Coptis occidentalis (Nutt.) T. & G.
 June 5, 1866. "Camp 9," Bitter Root Mountains, Idaho.
Pheum alpinum L.
Lathyrus venosus Muhl.
Erythronium grandiflorum Pursh.
Mertensia paniculata (Ait.) Don.
Ribes lentum (Jones) Coville & Rose.
 June 8, 1866. "Camp 9."
Ranunculus rhomboideus Goldie.?
 June 15, 1866. "Camp 9."
Trillium ovatum Pursh.
Valeriana Scouleri Rydb.
Polygonum bistortoides Pursh.
Taxus brevifolia Nutt.
Arctostaphylos Uva-ursi (L.) Spreng.
Dentaria macrocarpa Nutt.
 June 17, 1866. "Camp 9."
Asarum caudatum Lindl.
Linnaea borealis L. var. *americana* (Forbes) Rehder.
 June 20, 1866. West base of the Bitter Root Mountains.
Erythronium montanum S. Wats.
Geranium Richardsonii Fisch & Trautv.
Trifolium Douglasii House.
 June 26, 1866. "The day we started from camp 9 where we had been for 20 days waiting for the snow to go off. Bitter Root Mountains, alt. 4000-4500 feet, near snow."
Xerophyllum tenax (Pursh) Nutt.
Viola sempervirens Greene.
Trillium ovatum Pursh. (growing through $3\frac{1}{2}$ inches of snow).
Acer glabrum Torr. var. *Douglasii* (Hook.) Dippel.
Clematis columbiana (Nutt.) T. & G.
Calochortus elegans Lindl.
 June 28, 1866. Porphyry Peak, Bitter Root Mountains.
Syntheris major (Hook.) Heller.
Ribes viscosissimum Pursh.
Menziesia ferruginea Smith.
Mertensia oblongifolia (Nutt.) Don.
Gilia pungens (Torr.) Nutt.
 July 4, 1866. "Camp 15." 6000 feet, alt.
Senecio lugens Richards.
Viola glabella Nutt.
Antennaria racemosa Hook.
Ptilocalais nutans (Geyer) Greene.

July 6, 1866. Lou Lou Fork near Hot Springs, Montana.

Trollius laxus Salisb. var. *albiflorus* A. Gray.

Pedicularis racemosa Dougl.

Penstemon confertus Dougl.

Sedum Douglasii Hook.

Pedicularis groenlandica Retz.

Pedicularis contorta Benth.

July 7, 1866. Lou Lou Fork.

Ceanothus velutinus Dougl.

Ledum glandulosum Nutt.

July 8, 1866. Lou Lou Fork.

Trifolium longipes Nutt.

Lewisia rediviva Pursh.

Tofieldia intermedia Rydb.

July 10, 1866. Gold Creek, Montana.

Campanula rotundifolia L.

Linum Lewisii Pursh.

July 11, 1866. Deer Lodge Valley, Montana.

Machaeranthera canescens (Pursh) A. Gray.

Gaura coccinea Nutt.

Antennaria dioica (D. C. Eaton) Greene.

Malvastrum coccineum (Pursh) Gray

August 1, 1866. Fort Benton, Montana.

Hedeoma ovata A. Nels.

Mentzelia nuda T. & G.

ROCKY MOUNTAIN ALPINE NURSERIES

BIGFORK, MONT.